

### ***Remarks***

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendments, claims 1, 2, 4-11 are pending in the application, with claim 1 being the independent claim. New claims 6-11 are sought to be added. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Support for new claims 6-11 is found throughout the as-filed application and the claims as originally filed. Specifically, support for claims 6-10 is found, *inter alia*, in the as-filed specification at page 14, lines 10-17, and claim 1 as originally filed. Support for claim 11 is found in claim 1 as originally filed.

Based on the above amendments and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

### ***Rejections under 35 U.S.C. § 103***

Claims 1-5 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Appl. No. 2005/0003963 to Feucht *et al.* ("Feucht") in view of U.S. Appl. No. 2003/0078167 to Ziemer *et al.* ("Ziemer").

The present claimed invention recites compositions comprising compounds of formula (I) and several compounds known as 4-HPPD inhibitors, listed in (b) of present claim 1 ("compounds (b)").

The Office alleged that Feucht discloses herbicidal compositions comprising compounds of formula (I). Office Action, p. 4, ll. 6-8. The Office conceded that Feucht does not teach the specific compounds (b), however, sulcotrione, a

benzoylcyclohexanedione, is taught to be used as compound (b). *See id.* at p.4, ll. 14-15. The Office further alleged that Ziemer discloses benzoylcyclohexanediones, including the specific compounds (b), are used as herbicidal crop protectants. *See id.* at p. 4, ll. 17-19. Citing *In re Kerkhoven*, the Office contended that "[i]t would be prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order to form a third composition that is to be used for the very same purpose; the idea of combining them flows logically from their having been individually taught in the prior art. Thus, combining the specific compounds (b) with the [compounds of] formula (I) as taught by Feucht *et al.* is obvious." *Id.* at p. 5, ll. 5-10 (citation omitted).

Applicants respectfully traverse this rejection.

Applicants are aware of the flexible approach for establishing obviousness set out in *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007). However, as cautioned by Judge Rader in a post-*KSR* decision in *In re Kubin*, 561 F.3d 1351 (Fed. Cir. 2009), "where a defendant merely throws metaphorical darts at a board filled with combinatorial prior art possibilities, courts should not succumb to hindsight claims of obviousness." (561 F.3d at 1359.)

**A. One would not have had a reason to select a composition comprising sulcotrione for further modification**

Feucht discloses combining compounds of formula (I) with *hundreds* of potential different compounds, one of which is sulcotrione. *See* Feucht, p. 2, ¶[0016]. In cases such as this the Federal Circuit has cautioned against a finding of obviousness because the numerous "combinatorial prior art possibilities" can only be reconstructed through hindsight. *See In re Kubin*, at 1359. The Office has not provided a reason to select a composition comprising sulcotrione for further modification from the numerous

combinatorial possibilities disclosed in Feucht. Therefore, Applicants respectfully submit that one of ordinary skill in the art could only have selected a composition comprising sulcotrione for further modification through the benefit of impermissible hindsight.

Furthermore, the Office contends that one of ordinary skill in the art would have had a reasonable expectation of success in substituting a benzoylcyclohexanedione (i.e., the presently claimed compounds (b)) with sulcotrione in Feucht. *See* Office Action, p. 6, ll. 12-15. Applicants respectfully disagree.

The court in *In re Schechter*, considered the unpredictability as a factor weighing against the conclusion of obviousness. *See* M.P.E.P. § 2144.08(II)(4)(e). Unpredictability in this art is demonstrated in the Declaration submitted with Applicants' previous Reply filed on April 28, 2009.

According to the data presented in the Declaration, a combination of sulcotrione and a compound of formula (I) (i.e., I-2) demonstrates *antagonistic* herbicidal effects in the treatment of *Alopecurus myosuroides*. *See infra*. In contrast, a combination of I-2 and a compound (b) (Compound B.3) demonstrates *synergistic* herbicidal effects in the treatment of the same plant. Thus, although the "core structure" of sulcotrione and Compound B.3 is similar, these compounds exhibit opposite herbicidal activity when combined with a compound of formula (I).

Accordingly, in view of the Feucht's broad disclosure and the unpredictability in this art, Applicants respectfully submit that one of ordinary skill in the art (1) would not have selected a combination comprising a compound of formula (I) and sulcotrione for further modification; and (2) could not have predicted that substituting

sulcotrione with a compound (b) would successfully result in a composition with synergistic herbicidal effects when combined with a compound of formula (I).

For at least the reasons provided above, Applicants respectfully submit that a *prima facie* case of obviousness has not been established and request that the rejection of claims 1-5 under 35 U.S.C. § 103(a) over Feucht in view of Ziemer be reconsidered and withdrawn.

**B. The presently claimed invention achieves synergism and unexpected herbicidal activity**

Even assuming *arguendo*, that claims 1-5 are *prima facie* obvious in view of the cited references, which they are not, Applicants respectfully submit that the presently claimed invention achieves synergism and unexpected herbicidal activity not predicted by the cited references. Applicants would like to direct the Office's attention to the previously submitted Declaration under 37 C.F.R. § 1.132 executed by Dr. Erwin Hacker (Declaration), an expert in the field of herbicides. Table 1 of the Declaration (reproduced below) demonstrates the unexpected synergism achieved when combining compounds of formula (I) with the presently claimed compounds (b).

Compound	Application Rate (g a.i./ha)	<i>Alopercurus myorsuroides</i> control in %	Theoretical Synergistic Efficacy
I-2	5	55	
B.3	25	25	
I-2 + B.3	5 + 25	93 (⇔ synergism)	80
Sulcotrione	25	15	
I-2 + Sulcotrione	25 + 5	65 (⇔ antagonism)	70

Table 1, Declaration, p. 2. In addition to the data contained in the Declaration, Tables A-1 through A-9 of the as-filed application recite compositions comprising a combination of compounds of formula (I) and compounds (b), which exhibit higher herbicidal activity than when these compounds are used alone. As-Filed Application, p. 23-26. Furthermore, the herbicidal activity of the active ingredient combinations of the present invention is higher than the sum of the actions of the individual active ingredients, achieving a synergistic effect, and not merely an additive effect. *Id.* at p. 13, l. 37 through p. 14, l. 8. Applicants respectfully submit that the synergistic effects achieved by the presently claimed invention are not predicted by Feucht or Ziemer.

Accordingly, for at least the reasons provided above, Applicants respectfully submit that the *prima facie* case of obviousness has been rebutted and request that the rejection of claims 1-5 under 35 U.S.C. § 103(a) over Feucht in view of Ziemer be reconsidered and withdrawn.

### ***Conclusion***

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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